



COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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GRACE ROBINSON HYDE
Chief Engineer and General Manager

June 14, 2019
File No. 31-320.10

Via Electronic Mail

Mr. Chris Marks
Denali Water Solutions
2001 West Key Street
Colton, CA 92324

Dear Mr. Marks:

Transmittal of LACSD JWPCP Biosolids Monitoring Report

Attached please find the LACSD JWPCP Biosolids Monitoring Report for April 2019. The Report includes the following data for your files:

- | | | |
|-----------|---|------------------------------|
| Biosolids | - | total and soluble metals |
| | - | digester performance |
| | - | detected priority pollutants |
| | - | miscellaneous constituents |

I certify, under penalty of law, that the Class B pathogen reduction requirements in 503.32(b)(3) and the vector attraction reduction requirements in 503.33(b)(1) have been met. These determinations have been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

I certify, under penalty of law, that the biosolids are non-hazardous in accordance with Title 22, California Code of Regulations (CCR), Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II (Priority Pollutant Metals).

Attached are the analytical test results from LACSD/Contract Labs in accordance with CCR Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24(a)(2)(A) Table II, and from Test America in accordance with Arizona Administrative Code Title 18, Chapter 9, Article 10, Section 18-9-1012.

Should you have any further questions or require additional information, please contact Jorge Montezuma at (562) 908-4288, extension 2809.

Very truly yours,

Matthew J. Bao
Supervising Engineer
Reuse and Compliance

MJB:GS:nm
Attachments

DM#4916261

Denali_007018

Notice and Necessary Information
To be Completed by Preparers of Class B Biosolids

Facility Name: Joint Water Pollution Control Plant (JWPCP)

Monitoring Period: 04/01/2019 to 04/30/2019

1. Pollutant and Nitrogen concentrations (report results in mg/kg on a 100% dry weight basis. Attach lab analyses).

	As	Cd	Cu	Pb	Hg	Mo	Ni	Se	Zn	Org-N	NH ₃ -N	% solids
Result	7.74	6.6	311	15.4	0.72	22.2	48.6	31.4	751	50,000	5,960	27.9
Table 3	41	39	1500	300	17	na	420	100	2800	na	na	na
Table 1	75	85	4300	840	57	75	420	100	7500	na	na	na

Sampling date(s): 04/02/19 Sample Number(s): 19040300301

2. Class B Pathogen Reduction: (Check off and fill in applicable portion)

- ☒ anaerobic for 19 days at 35.6 °C (96.1 °F) (range for past month)
 Class B: either 15 days at 35°C to 55°C or 60 days at 20°C
☐ aerobic digestion for to days at to degrees F / C (range for past month)
 Class B: time (days) ≥ 20 - 15(temp, degrees C) for times between 40 and 60 days
☐ drying beds for to months (attach records of dates in and out)
 Class B: time > 3 months; 2 months > 0 degrees C
☐ fecal coliform: geometric mean of seven samples = (attach lab results)
 Class B: geometric mean of seven samples is < 2,000,000 mpn
☐ lime stabilization: pH at 2 hours after addition =
 Class B: pH 2 hours after addition of lime is ≥ 12


3. Vector Attraction Reduction:

- ☒ Option 1: % VS_{in} = 75 % VS_{out} = 60 % VSR = 51 % per Van Kleeck method
 VAR: VSR > 38%
☐ Option 2/3: Bench scale test: % VSR = after days
 VAR: additional VSR < 17% after 40 days (anaerobic), < 15% after 30 days (aerobic)
☐ Option 4: SOUR =
 VAR: SOUR < 1.5 mg O₂/hr/gram (dry weight)
☐ Option 5: Composted days at temps of to degrees F/C (attach times/temps)
 VAR: temp > 40 degrees C for 14 days, w/5 days > 45 degrees C
☐ Option 6: time alkali added: pH after 2 hours = pH after 22 hours =
 VAR: pH ≥ 12 for 2 hours after alkali addition, ≥ 11.5 for additional 22 hrs
☐ Option 7: % solids = Stabilization method:
 VAR: stabilized solids > 75%
☐ Option 8: % solids =
 VAR: unstabilized solids > 90%
☐ Option 9/10: Applier will inject/incorporate within hours
 VAR: injection within 1 hour, incorporation within 6 hours

Certification: I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or the persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and Official Title: Matthew J. Bao - Supervising Engineer

Phone: (562) 908-4288 Extension 2824 E-mail: mbao@lacsds.org

Signature:  Date: 6/14/19

BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake -Total Metals Concentrations
mg/kg Dry Weight

Sample No.	Date	% TS	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	Al
19010900294	1/8/2019	28.1	8.79	5.0	103	322	15.7	0.61	23.9	44.2	29.8	755	7,710
19021300240	2/12/2019	28.6	9.19	5.7	104	318	18.4	0.59	20.4	46.7	28.4	766	-
19030600205	3/5/2019	27.9	8.09	6.8	116	330	16.7	0.95	19.0	47.7	27.1	736	-
19040300301	4/2/2019	27.9	7.74	6.6	105	311	15.4	0.72	22.2	48.6	31.4	751	7,540
MEAN		28.1	8.45	6.0	107	320	16.6	0.72	21.4	46.8	29.2	752	7,630
MAX			9.19	6.8	116	330	18.4	0.95	23.9	48.6	31.4	766	7,710
TABLE 1 LIMITS		\	75	85	\	4,300	840	57	75	420	100	7,500	\
TABLE 3 LIMITS		\	41	39	\	1,500	300	17	\	420	100	2,800	\

Sample No.	Date	% TS	Sb	Ba	Be	Co	Fe	Mn	K	Ag	Tl	Sn	V
19010900294	1/8/2019	28.1	3.8	1,290	0.081	6.88	97,200	226	990	3.1	< 0.20	48.8	59.5
19021300240	2/12/2019	28.6	-	-	-	-	-	-	-	-	-	-	-
19030600205	3/5/2019	27.9	-	-	-	-	-	-	-	-	-	-	-
19040300301	4/2/2019	27.9	4.0	1,210	0.087	7.39	90,600	208	998	3.4	< 0.20	58.0	64.6
MEAN		28.1	3.9	1,250	0.084	7.14	93,900	217	994	3.3	ND	53.4	62.1
MAX			4.0	1,290	0.087	7.39	97,200	226	998	3.4	ND	58.0	64.6

\ = No limit

ND = Not Detected

Statistics use detected values only

BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Nutrients and Miscellaneous Constituents
mg/kg Dry Weight (or as indicated)

Sample No.	Date	% TS	Sulfur	PO ₄	NH ₃ -N	Org-N	NO ₃ -N	NO ₂ -N	Boron	pH
19010900294	1/8/2019	28.1	32,000	78,100	6,640	48,400	< 141	< 3.56	27.7	8.2
19021300240	2/12/2019	28.6	30,700	-	6,180	46,500	< 137	4.32	-	-
19030600205	3/5/2019	27.9	26,500	-	6,310	46,500	< 143	< 3.58	-	-
19040300301	4/2/2019	27.9	29,900	82,300	5,960	50,000	< 143	< 3.58	27.8	8.2
MEAN		28.1	29,800	80,200	6,270	47,900	71	2.42	27.8	8.2
MAX			32,000	82,300	6,640	50,000	72	4.32	27.8	8.2

ND = Not Detected

Statistics use detected values only.

2nd Quarter BIOSOLIDS MANAGEMENT PROGRAM
JWPCP Biosolids Cake - Soluble Metals Concentrations - mg/L
Analyzed by California Title 22 Waste Extraction Test

Sample No.	Date	Al	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Fe
19010900297	1/8/2019	159	0.05	0.12	26.2	< 0.01	< 0.005	1.28	0.10	< 0.10	2,290
19040300303	4/2/2019	149	0.06	0.10	24.1	< 0.01	< 0.005	1.35	0.10	< 0.10	2,060
MEAN		154	0.05	0.11	25.2	ND	ND	1.32	0.10	ND	2,180
MAX		159	0.06	0.12	26.2	ND	ND	1.35	0.10	ND	2,290
TITLE 22 STLCs		\	15	5.0	100	0.75	1	5	80	25	\

Sample No.	Date	Pb	Hg	Mo	Ni	K	Se	Ag	Tl	Sn	V	Zn
19010900297	1/8/2019	0.03	< 0.0015	0.29	< 1.00	< 50.0	0.03	< 0.02	< 0.04	< 0.04	1.13	8.80
19040300303	4/2/2019	0.03	< 0.001	0.25	< 1.00	< 50.0	0.04	< 0.02	< 0.04	< 0.04	1.19	8.24
MEAN		0.03	ND	0.27	ND	ND	0.03	ND	ND	ND	1.16	8.50
MAX		0.03	ND	0.29	ND	ND	0.04	ND	ND	ND	1.19	8.80
TITLE 22 STLCs		5.0	0.2	350	20	\	1.0	5	7.0	\	24	250

ND = Not Detected

\ = No Limit

Statistics use detected values only.

2019 BIOSOLIDS MANAGEMENT PROGRAM

JWPCP Digester Performance

Month	Temp (°F)	Detention Time (Days)	VSD (%)
January	96.1	20	53
February	96.0	20	54
March	96.1	19	54
April	96.1	19	51
May			
June			
July			
August			
September			
October			
November			
December			
MEAN	96.1	20	53
MIN	96.0	19	51

Semi-Annual JWPCP Biosolids Cake Detected Priority Pollutants mg/kg on a Dry Weight Basis

Date	1/8/19
Sample Numbers	19010900294
	19010900295
Constituent	Result (mg/kg)
Arsenic	8.79
Cadmium	5.0
Chromium	103
Copper	322
Lead	15.7
Mercury	0.61
Nickel	44.2
Selenium	29.8
Silver	3.1
Zinc	755
Antimony	3.8
Total Cyanide	4.22
Diethylhexyl Phthalate	35.9